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NAVY, NAVY DOCTRINE IN SOVIET UNION

West Berlin BEFREIUNG in German No 9, May 77 pp 109-110, 64-83

[Article by Dirk Hennings and Alexandra Herrmann, Free University of Berlin]

[Text] [English Summary] The article analyses the development of the Soviet Navy and navy doctrine in the context of the shift in power relations between the SU and the US on the one hand, and many new emerging forces in the Third World. The development of an offensive soviet navy started in the mid-fifties, by 1961 the first attempt was made to enter the US-realm and to radically change the strategic power-relations, but the soviet navy still lacked the capacity to counter a US-threat.

The third stage of this development started with the invasion in the CSSR.

The specific built-up of the soviet navy is then analyzed. The authors conclude that it is designed as an offensive weapon against the US for nuclear warfare and serves to block the european seaways in case of war; the landings troops developed in the last years are directed mainly at the intermediate zones between the US and the SU and the large trawler, merchant and logistic fleet is used for espionage and support functions.

Studying the two OKEANOS manoeuvres of 1970 and 1975 the authors conclude that they were designed as an exercise for a strategic attack on Western Europe. One of its aims was to interrupt the raw material and war material supply to Europe, a second one was to train troops for combined landing operations in Northern Europe.

In a last section some questions of how to evaluate the soviet navy today are discussed. It is critizised that many strategic experts and institutions determine the offensive potential of the soviet forces from the number of their units and the quality of their equipment alone and underestimate the role of political factors. This is borne out by the circumstances surrounding the intervention of Soviet forces in Angola.

Intensified expansion of the Soviet Navy has become increasingly clearer in the last 2 years. This has resulted in sharp controversies about the goals which the Soviet leadership is thus pursuing and about the degree of danger from this navy. Soviet intervention in Angola, with large-scale air and sea maneuvers and with the help of Cuban troops, as well as the OKEAN maneuvers in 1975, in which disruption of Europe's most important civilian and military supply routes was tested from the Indian Ocean to North Europe, have made it clear that the offensive of the Soviet government in the struggle of the two great powers has taken on a new quality. The systematic and imperialist expansion of the Soviet Navy was illustrated in an article in No 8 of this journal where one example was cited: the passage of the aircraft carrier Kiev through the Dardanelles.<sup>1</sup> The aircraft carrier was built in the Black Sea although passage of such ships through the Dardanelles is expressly forbidden by the Montreux Convention. The deliberate violation of the rights of Turkey, which controls observance of this treaty, was figured in at the same time planning of this type of aircraft carrier was begun. This step is symbolic of the entire expansion of the Soviet Navy and for its strategy which is set forth in the recently published book by Sergey G. Gorshkov, supreme commander of the Soviet Navy.<sup>2</sup>

Well-known research centers such as the International Institute for Strategic Studies, London [IISS], or the Stockholm International Peace Research Institute [SIPRI] report unanimously that the USSR is clearly superior to the West in the sector of conventional weapons and is steadily expanding this superiority with a larger outlay than the United States. Only in the atomic area is the West still superior if one considers NATO and the Warsaw Pact. The following statistics make this clear:<sup>3</sup>

	NATO	Warsaw Pact
Soldiers	1,175,000	1,305,000
Tanks	11,000	26,500
Guns	6,200	8,300
Aircraft	2,960	5,300
Atomic warheads	7,000	3,500

Every 5 weeks the Soviet Union builds a new submarine; 800 fighter planes and 2,000 new tanks are produced annually, approximately 5 times as much as in the United States.<sup>4</sup> Military strategists like U.S. Senators Nunn

and Bartlett have, therefore, also come to the conclusion that the Soviet Union is in a position in Europe in a surprise attack to overrun the NATO defense from a standing jump and to reach the Rhine in 48 hours.<sup>5,6</sup>

Outside Central Europe the Soviet Union is also showing extensive activities. A large-scale policy of bases, as for example in the Indian Ocean,<sup>7</sup> and their presence and reconnaissance operations in all oceans make plain which dimension the striving for hegemony of the Soviet government has assumed in the meantime. These facts are disputed, on the one hand, by the Soviet government,<sup>8</sup> as Leonid Brezhnev said at the 25th CPSU Congress: "In reality there is of course no Soviet danger of any kind, neither for the West nor the East. That is all a monstrous lie, from A to Z. The Soviet Union does not intend a surprise attack on anyone. The Soviet Union does not need a war. The Soviet Union is not increasing its military budget, (...) again and again it makes concrete suggestions on limiting armament, on disarmament."<sup>9, 10</sup>

On the other hand Soviet strategists speak of the "revolutionary world process" in the stream of which Soviet-type "socialism" will prevail worldwide and they declare that in this "world process" the leading role will fall to the Soviet Union.<sup>11</sup> Thus, in the view of the Soviet government there is no contradiction between its affirmations of peaceable intentions and its actual policy. Directly after the 1968 intervention in the CSSR Brezhnev spoke of the "limited sovereignty" of the other "socialist fraternal states" vis-a-vis the Soviet Union and 1 year later in 1969 at the United Nations he put forth a proposal about "strengthening world peace and international security" which contained as a basic principle "non-intervention in internal affairs." Shortly after the active order by the Soviet government to Indian Prime Minister Indira Gandhi to intervene in Pakistan and to split this country the Soviet government presented a resolution at the United Nations concerning the "nonuse of force in international relations and the ban on nuclear weapons for all time." Immediately after the intervention in Angola the CSCE took place in Helsinki at the behest of the Soviets, and several months later the Soviet government presented the draft of a "world treaty on the nonuse of force in international relations."

What function detente has in the real opinion of the Soviet government is made clear when it speaks of the fact that detente cannot be a "survival guarantee" for governments that are not agreeable to it. A report of a secret meeting of Moscow-oriented European communist parties confirms this view. In Brezhnev's opinion detente permits the rapid buildup of Soviet military and economic power. By 1985 a decisive shift in the power relation would be achieved which would make it possible for the Soviet Union to assert its will "wherever it seems necessary to us."<sup>12</sup>

In this article an attempt will be made to give a brief overview of the development of the Soviet Navy and Soviet Navy concept since the fifties, to sketch the current state of the Soviet Navy and to provide a provisional

analysis of the statements of Admiral Sergey Gorshkov, the most important Soviet naval strategist, in his new book "Sea Power of the State."<sup>13</sup>

#### Historical Look Backwards--the Turn to the Offensive Navy Doctrine

After the October revolution the young Soviet Union pursued a fundamentally defensive navy policy. In the journal OSTEUROPA, originally an instrument of the Cold War, Ghebhardt and Smolansky wrote by way of a sober assessment of early Soviet Navy policy:<sup>14</sup> "In the twenties the Kremlin successfully resisted the pressure of the group in the navy characterized as the 'old school.' This group, consisting primarily of former Czarist officers, viewed Great Britain as Russia's chief enemy and advocated the formation of a strategically offensive navy. This was to rely on large surface ships including aircraft carriers. The retirement of these men from political life coincided in time with the appearance of the so-called 'young school' of naval officers. These advocated a basically defensive posture, in the case of which the primary concern was a large submarine fleet which was to be supported by a rather small number of large surface ships, strong torpedo units, relatively weak other naval forces and a land-based naval air force. The resistance to aircraft carriers and an offensive sea strategy was successfully sustained during the thirties, even after the 'young school' was discredited and Stalin directed the building of a strong surface navy based on experiences gained in the Spanish Civil War and in view of the growing naval power of Nazi Germany. There are indications that he also approved the building of several aircraft carriers. Of course the keels were not to be laid until 1942--even if the information is correct. Stalin's view apparently did not change substantially in the course of World War II and it was not until 1950 that he finally authorized the construction of four aircraft carriers. They were never built." (Ghebhardt and Smolansky, p 416; italics by the author).

After World War II the USSR saw itself confronted by the large sea powers of the United States and Great Britain. Therefore, it proceeded on the basis "that in the case of a large war with Western powers the USSR would be exposed to invasion by land and by sea.... In order to protect itself against the threat of a possible maritime invasion Stalin, as already mentioned, ordered the construction of a strong conventional navy. Since during the first 5 postwar years he continued to reject the construction of aircraft carriers and since the range of his coastal air force remained rather limited Stalin's decision no doubt meant that the Soviet Navy would, in the event of a large war, be only in a position to resist the enemy in areas near the coast. It was therefore basically viewed only as an instrument of defense." (Ibid, p 418)

The Soviet concept of a navy has been revised since about 1953. In connection with this Khrushchev and Bulganin sought by spectacular trips to India and Afghanistan to establish relations with these countries which,

among other things for the Soviet Union, were to gain access to the warm water ports of the Indian Ocean. (The Soviet Union has only one open sea harbor, Vladivostok, which however is also closed by ice for several months of the year. The other ports are inland seaports also with long periods of being iced in.) (DIE WELT 16/17 March 1977, SMR October 1976, p 41)

#### First Phase (1953-1960)

Three phases can be differentiated in the development of the Soviet Navy and navy policy since 1953.

The first phase (1953-1960) is characterized by the effort to come to an arrangement with the United States. The United States, after World War II, had assumed in many countries control over the colonial empires of its weakened allies, France, Holland and England.

Under the pretext of defending democracy against communism they established military bases and support points in many countries with the goal of bringing these countries themselves under their control and opening them up for their own economic expansion. On the long term they hoped for a "roll-back" and subjugation of the Soviet Union. In order to establish its dominance in Europe and Japan and in the Third World they did not, where political and economic pressure was insufficient, shrink back from military intervention, for example in Korea, Vietnam, Panama, Greece or Iran and Lebanon. At the same time they intensified the political, ideological, economic and military repression against the USSR in order to bring about far-reaching internal changes there.

Middle-class and imperialist circles in the Soviet Union exploited this situation of blockade and offensive on the part of the United States and the opposition within the CPSU in order to implement at the 20th party congress a policy which broke fundamentally with the most important political premises of the preceding period. They set to work to establish out of the Soviet Union their own imperialist world power under their leadership. Essential elements of this course--in the sectors of foreign, party and economic policy and especially ideology--had already been established in the years preceding even if only against the sharp resistance of someone like Malenkov.<sup>15</sup> The first step was the consolidation of their own "sphere of dominance" by overthrow or reversing the polarity of numerous governments in the East European "fraternal" countries which was tied in with the implementation of the claim to leadership of the Soviet party and its line.

How did this line look? Vis-a-vis the increasing resistance of the Third World to U.S. imperialism they preached the impossibility of a struggle against the United States in view of the latter's nuclear superiority. They made propaganda for getting under the nuclear shield (and into dependence) of the "socialist states" and tried in this way to get the

stream of people and countries of the Third World, which was initially aimed only against U.S. imperialism, to work for their own goals. In this way they "supported" the struggle of these states and peoples, but only as long as it was carried on with Soviet weapons, under increasing Soviet control and for Soviet goals.

The countries of the Third World, which had become independent, began to offer resistance to neocolonial dependency on the United States which had followed the earlier colonial rule. But they also had sufficient resistance to certain chauvinistic features of Soviet policy in order to reject the required dependence on the "socialist camp." At the same time, however, they did not dispense with inviting the People's Republic of China to the Bandung Conference, where a program with the "five principles of peaceful coexistence" was passed which both put forth common battle requirements against imperialism and offered instruments of peaceful settlement of conflicts between the nonaligned countries. They joined together as "nonaligned countries" and thus expressly indicated that they did not feel they belonged to either of the two large "blocs."

When summarized, the policy of the new Soviet leadership in this period meant: collaboration with the United States, but also at the same time the attempt to subordinate the nonaligned countries to their own interests; to bring liberation movements under control and above all to erect strategic foundations of imperialist world power of their own which would soon be able to challenge the existing hegemony power, the United States.

Shortly after the 20th party congress there came in S. G. Gorshkov a man to head the government who saw to the necessary emphasis in the area of the navy, a central area for the purpose of implementing Soviet claims of control. Gorshkov became chief of the Soviet Navy and thus successor to Supreme Commander of the Navy Nikolay Kuznetsov, who shortly after the 20th party congress had been expelled from the Central Committee and who in Stalin's time had exercised this function. Gorshkov was an old war comrade of Khrushchev and was appointed as the only representative of the navy in the Central Committee, first as a candidate. Gorshkov had still been teaching the "continental thesis" in 1954 in the Leningrad "Lektorium": "Our sphere of power remains contained on the continent. We have about 28,000 nautical miles of wet borders which cost twice as much as dry ones. What social accomplishments must we dispense with then!" (DER SPIEGEL 1/2, 1976, p 59)

But there are indications that from the beginning he advocated an offensive concept of the navy. That is also expressed in his most recent book where he speaks as follows about the history of the Red Navy: "It is no longer a secret that the Soviet Army and Navy had nuclear weapons including hydrogen bombs at their disposal at the beginning of 1954 and tested the practical use of these weapons under combat conditions. This opened up a new era in the development of the Soviet Navy--the era in which we created and developed an atomic powered navy with atomic missiles which established the position of our country as a large sea power. (Gorshkov 1976, p 292)

The fact that Khrushchev frequently expressed himself in public disparagingly about large surface ships obviously obscured the vision of Western analysts. For although "...the construction of many types of large surface ships was halted, the USSR accelerated the building of submarines with atomic and diesel power, made progress in the development of cruisers and new types of rockets and continued work on new surface ship plans. Among other things the decision to build two helicopter carriers of the Moscow class (they are named 'Moscow' and 'Leningrad') during Khrushchev's administration had probably been made in the late fifties. (Ghebhardt and Smolansky, p 416)

The range of the rockets which could be launched from submarines in 1957 came to barely 650 km.<sup>16</sup> However, since the action radius of submarines was still limited it was sufficient only for coastal operations. In the case of a design for offense there are two results: in the first place, the technological development with the goal of longer range missiles and rockets was pushed forward and, in the second place, the sphere of operation was expanded. Since in this period the United States still had absolute predominance on the world's seas and technologically and quantitatively was far superior the Soviet government was reserved about using big words concerning the navy and further stressed the role of the Soviet Union as a "peace-loving continental power."

#### Second Phase (1960-1968)

The second phase of political development (1960-1968) is characterized by the fact that the new Soviet government was able to extensively consolidate its position domestically and in East Europe. Competition vis-a-vis the United States intensified although the power relation was still clearly in favor of the United States, which, however, saw itself in opposition to increasingly massive resistance in all parts of the Third World. The building of the Berlin Wall shows that the United States in the meantime respected the Soviet sphere of dominance and regarded the Soviet Union as an imperialist authoritarian power. The Soviet Union was, however, far too weak to be able to accomplish with its navy the installation in Cuba of atomic rockets aimed at the United States a few nautical miles off the North American coast.

In this period Gorshkov revised the "continental thesis" and developed the concept of "forward defense." (Then, too, a new rank was introduced for him, "Admiral of the Navy," after he rose to being a full member of the Central Committee.) "Forward defense" means that not only new defense weapons and concepts were developed, but also strategy was oriented totally toward offense. The USSR began, like the U.S. imperialists, to acquire and/or extort support points and military bases in strategically favorably located countries.

The key issue in arming the Soviet Navy was not to directly threaten the United States militarily, but rather aimed more at disputing their control

and exploitation of the Third World and Europe. Up to now the expansion of the new navy was thus concentrated chiefly in this area--and not, say, on the North American coast. The U.S. government in turn became aware that the greatest danger to its supremacy did not stem from the Soviet Union at that time, but from the Third World. With the beginning of the Kennedy administration, it redirected its strategic concept of "massive retaliation" against the Soviet Union and aimed its forces at holding down jointly and in competition with the USSR, the battles of the Third World which were flaring up. Maxwell Taylor, one of the leading U.S. strategists, who later became supreme commander, pointed in 1960 to the fact that the United States will hinder the big war, but will not win the "little" one, that is, the armed conflict, say, in Vietnam, Cuba, Algeria, or Laos. Therefore, if at this time the United States was working to create with aircraft carriers, "Marines," "Green Berets," and with a large number of helicopters and ingenious technologies the arsenal for suppressing the people's liberation struggle on the basis of an already expanded gigantic navy--then the USSR, at the beginning of the sixties, pursued accelerated arming of the navy in the "basic sector" of submarines and destroyers. The development of the Russian Navy was accelerated after the removal of Khrushchev, whose "peaceful coexistence" theory and ideas of "goulash communism" increasingly bordered on the grim realities.

The year of the beginning of the Mediterranean fleet is 1964, with bases in Egypt (FRANKFURTER ALLGEMEINE ZEITUNG [FAZ] 27 June 1966); it is also the year of the penetration of the Soviet Navy into Norwegian waters. Under Brezhnev the construction of 4 cruisers was begun, the keel laid for 16 new atomic submarines, and all Soviet ships including trawlers were outfitted with electronic equipment. The rockets of the new ships now also represented a growing threat for the United States itself; since 1962 their range has been 1,200 km. This concept of intensifying competition with the United States in the suppression of the "intermediate zones" between the USSR and the United States was simultaneously accompanied by an intensification of "disarmament initiatives" with disarmament discussions since 1962, with the 1963 treaty on stopping tests and with the beginning of negotiations on the ban treaty.

At the 23rd CPSU Congress in April 1966 Soviet Marshal Malinovský speaks for the first time of a "blue defense zone": "Especially now, when we have succeeded in closing the blue defense zone of our state, we stand quietly and safely ready to defend the peaceful work of our people." (PRAVDA, 3 April 1966)

One month later GDR General of the Army Hoffmann once again repeats in front of border troops in East Berlin: "The strong shield and the sharp sword of the socialist military alliance are the rocket troops of the USSR, their air, ground, intercontinental and medium-range missiles can carry an explosive of more than 100 megatons to any point on the earth. These now also include atomic powered submarines of the blue defense zone which can operate in all oceans." (ADN, 25 May 1966)

In 1966 the first Soviet atomic submarine circled the earth submerged.  
(ND 4 April 1966)

Three events mark the conclusion of this phase:

--the defeat of the United States in Vietnam, which had become apparent with the Tet offensive, and the economic crises in the "Western camp" which resulted in an intensification of the opposition between some European countries and the United States,

--the invasion of the CSSR by the Soviet Union and the beginning of a worldwide offensive against the United States and the Third World,

--finally the new stage in the alliance of the Third World which was reached with the founding of the "Group of 77" at the 1967 UN Conference on Trade and Development.

#### Third Phase From 1968 On

The invasion of the CSSR by the Soviet Union introduced a new phase of development for this imperialist power. In the late fifties after the criticism of Soviet leadership had been led chiefly by the communist parties of China and Albania under the aspect of criticism of ideological and political retreating in the face of U.S. imperialism and after there had been talk in the great "polemic concerning the general line of the international communist movement" about restoring capitalism in the Soviet Union, Chou en-Lai characterized the USSR as "social imperialism" one day after the invasion.

The new phase is characterized by a comprehensive offensive on the part of the Soviet government. The Soviet government risked everything to move into the supposed "vacuum" left by the United States, which in fact was nothing other than the result of the peoples' liberation struggle. At the same time it endeavored to expand its own mechanisms of suppression and exploitation in such a way that it would be in position for independent expansion in case of growing opposition also by the Third World vis-a-vis its imperialist policy.

The enormous expansion of the Soviet Navy which is presently taking place was planned and implemented in these years of the turn to offensive by the Soviet Union. Between planning and launching up to 8 years elapse in the case of the long construction times for technologically highly complicated navy units such as atomic submarines and aircraft carriers so that the Soviet Navy units being launched today are an expression of this offensive turn in Soviet policy: In 1968 the buildup of the Soviet Navy in the Indian Ocean began, in 1969 Soviet warships visited Cuba and cruised in the Caribbean, in 1970 Soviet destroyers visited Guinea. Gorshkov had been named "hero of the Soviet Union" and had been elevated to marshal.

In 1970 for the first time extensive maneuvers of the new Soviet Navy took place, OKEAN 1970. The Soviet Navy exercised in the northeast out-lying waters of the Atlantic, chiefly in the Sea of Norway and in the straits between Iceland, the Faeroe Islands and Scotland and on west of Ireland. At the same time the limitations of the existing Soviet Navy were clearly expressed in this geographical dimension. It was not yet in a position to extend its maneuvers far beyond the northern area even if first steps were taken in this direction with fleet visits and the fixed stationing of individual units. (HSINHUA, 26 June 1976)

The missiles developed in the meantime had a range of 2,400 km so that the Soviet Union was now in position to hit any place in the United States from submarines in an area secured by their own units. (Cf. footnote 16) In 1972 the Soviets possessed missiles of the type SSN-8 with a range of almost 8,000 km and with them could hit any target in the United States from submarines of D-class from the Barents Sea. Gorshkov declared that the Soviet Union with its ICBM [intercontinental ballistic missiles] had a more effective weapon than the United States because submarines are less vulnerable and because the United States at this point in time had developed only Poseidon rockets with submarines as the launching base and with a range of 5,200 km. Not until 1977 did the United States succeed with the successful launch of a Trident rocket with a range of 7,400 km. (DER STERN 3 February 1977) In 1973 the first two 42,000 ton Soviet aircraft carriers were launched. Every U.S. aircraft carrier since then was always shadowed by at least one Soviet atomic submarine. (NEUE ZUERCHER ZEITUNG 5 March 1972 and DER SPIEGEL 1/2, 1976) Today the social imperialists designate as their sphere of influence and dominance respectively, an area that is marked by a line that reaches in the form of an arch from the southern tip of Greenland diagonally through the eastern Atlantic, cutting Africa even with the Canary Islands, from the Horn of Africa through the Arabian Sea to India.

#### OKEAN 1975 Maneuvers

The strategic concept of the Soviet Union becomes evident if one analyzes the OKEAN 1975 maneuvers, the largest naval exercise ever held by the USSR. Involved in the maneuvers were the entire northern Atlantic between the Barents Sea, the Caribbean and the Azores, the west coast of Africa, the Indian Ocean at the entrances to the Persian Gulf, the Red Sea, and the outlying waters of the Pacific and the Sea of Japan and the Philippine Sea. Of the 220 ships involved, 120 were warships, the majority being submarines.

Deployment began on 8 April under a unified and central command. A unit of Soviet destroyers and cruisers sailed from the ports of the Kola Peninsula, the largest naval base in the world, for the waters north of Iceland. A similarly mixed unit from the Baltic Sea joined it. This unit evidently had the task of interrupting the northern shipping lines between America and Europe and it had units with it which are to block the northern air

route of the so-called Big-Lift operations with which the United States, in the event of a crisis, will strengthen its troops in Europe. The southern route via the Azores was closed by a second unit of the Baltic fleet which passed through the Denmark Strait and the English Channel and joined up with two rocket destroyers off the Azores which had come from the Cuban base. An additional destroyer sailed south with a tanker and submarine tender from the Mediterranean and was stationed as a patrol and air reconnaissance coordinator off the coast of Guinea. A large unit from the Mediterranean joined the unit off the Azores to strengthen it. At strategic points behind these units were located submarines which were to intercept any ship that might possibly break through and wanted to reach Europe with supplies or oil. The parts of the fleet that in the meantime remained in the Baltic Sea carried out exercises along the Pomeranian coast and with the other navy units of the Warsaw Pact tested the establishment of bridgeheads in the space of the coasts of the Baltic and North Seas of Western Europe. Between the Kola Peninsula and the patrol unit off the coast of Guinea a complete air reconnaissance network was set up to record any movement between the United States and Western Europe. The main task of these units was to interrupt the total economic and military link between the United States and Europe.

In the Mediterranean the large Soviet Mediterranean fleet exercised in the Tyrrhenian Sea around Corsica and Sardinia, that is, in the space in which the initiating pipeline stations for oil from the Mediterranean area are located (for example, Genoa) in order to break communications here and to restrict larger operations by the U.S. Mediterranean fleet; primarily to hinder an attack by it on the Soviet North Atlantic blockade.

The units of the Soviet Navy in the Indian Ocean were concentrated at the mouth of the Persian Gulf, that is, in an area from which the by far greatest part of the petroleum supply for Europe and Japan comes; also at the entrance to the Red Sea through which the smaller tankers enter the Mediterranean, and finally near Madagascar, the South Cape and off the coast of West Africa, that is, the three obligatory routes which large tankers must use on their way to Europe. At the same time large units of the naval air force were moved by way of support into the different bases (Berbera, Cuba, and so forth).

The dimensions of these maneuvers as compared to OKEAN 1970 show that today the Soviet government has switched over to carrying out fleet maneuvers on a large scale operating in all waters of the world under a single command. The main tasks to be practiced in these maneuvers were: cutting off West Europe from strategically central oil and raw material supplies, sealing off the North and South Atlantic routes, via which troops and goods could come from the United States, and, finally, support measures for operations of the Soviet Army vis-a-vis Western Europe.

In view of the maneuvers of the Soviet Army which, regularly practices lightning operations with river crossings (Elbe, Weser, Rhine), it can be

said that the strategic concepts of the different units basically concentrate on the same targets. This of course in no way means that other opportunities which presented themselves are left out, as say in Angola, opportunities which shift the power relations in favor of the Soviet Union.<sup>17</sup> This kind of maneuvers do not represent an exception. That becomes clear in studying the official journal SOVIET MILITARY REVIEW. "Seaborne landing," i.e. "landing from water," is a frequent goal of maneuvers. This includes coastal reconnaissance,<sup>18</sup> combined army-navy operations<sup>19</sup> or direct land maneuvers.<sup>20</sup>

#### Fishing Fleet and Espionage Ships

The Soviet naval offensive is not only coordinated with the other military units, but also with the merchant marine and fishing fleet. Thus, the fishing fleet has not only the task of catching fish in foreign waters, but beyond that it represents an unobtrusive aid for espionage. Moreover, in case of war it can be used to transport military goods.

Since 1 January 1977 the 200-mile limits of the EC have been in effect by virtue of resolutions of groups which also have as their particular goal the protection and exclusive use of the fish stocks in the North Sea and Atlantic zones by the bordering countries. But, regardless of that, the Soviet trawlers continue their fish "raids." Thus, reconnaissance aircraft reported that at the beginning of the new year over 200 Soviet fishing ships were sighted inside the 200-mile limit. On 10 January 1977 the Soviet fishing leadship "Ivan Fyodorov" was captured by the British frigate Rothesay. (DIE ZEIT 14 January 1977)

Recently the Soviet Union has been referring, by way of an excuse, to formal defects in the appropriate new determinations in order thus to get a reprieve for their "robbery" for up to 1 year. (TSP 14 January, 28 January, 29 January 1977)

Soviet spy ships, often disguised as trawlers, frequently turn up in the waters off Northern Ifeland and cruise there in order to locate a British submarine base or to keep under constant surveillance the rocket test grounds in Aberporth and the NATO defense installations on the southern coast of Scotland. They also operate in the oil fields of the North Sea and the channel between England and France. For example, in October 1975 between 40 and 70 large trawlers were active there and in connection with this one even penetrated England's 12-mile limit. (PR 10/76, THE GUARDIAN, Manchester, 1 May 1976)

In addition to these disguised activities the Soviet Union also operates quite openly with spy ships which it sends to the most varied areas. For example, so-called "research ships" cruise in all oceans. The "Valerian Yuriayaev" is one of them. It cruises in Australia's territorial waters, ostensibly carrying out "hydrographic studies." But it is well-known that

this ship has at its disposal highly sophisticated radio, radar and navigation equipment, even a reinforced hull for voyages in frozen waters, all of which make it into an excellent spy ship around Australia and in the subarctic waters south of Australia. In December 1976 the ship was not allowed to anchor in Australian ports. In spite of that it is staying on Scott Reef, a group of islands and reefs inside Australia's territorial waters. Evidently the North-West Cape "Maritime Communications Station" operated by the U.S. imperialists is to be kept under surveillance from here; this station maintains radio contact between the Pentagon and U.S. navy units in the Indian Ocean.

Further south, in the Antarctic, the Soviet Union has set up five bases and has planned seven additional ones in the north of the Filchner Ice Shelf and in the coastal area of the Weddell Sea. Moreover, it has set up a missile launchpad on this continent which according to a TASS report has "created favorable and realistic conditions for researching the higher strata of the atmosphere from the North Pole to the South Pole." In all, at present the Soviet Union has stationed about 1,500-2,000 persons in the Antarctic. Why? The Soviet Union has been aiming at exploitation of the natural biological, mineralogical and energy resources, at plundering the land and utilization of it for military purposes. It wants predominance in this area by violating the national interests of other countries. (PR 24, 1976) In this region coal, iron, manganese, copper, nickel, cobalt, chromium, lead, zinc, gold, molybdenum, aluminum, graphite, silver and diamonds have been discovered; the existence of uranium, thorium and plutonium is suspected.

Another example is the Soviet attempt to occupy the Spitzbergen Islands by disregarding the sovereign rights of Norway. According to the 1920 Paris treaty, which was signed by more than 40 countries including the United States, Great Britain, France and the Soviet Union, Norway is "in possession of full and absolute sovereignty." For years the Soviet Union has been trying to appropriate this island group. Again and again it has suggested sharing sovereignty with Norway and claimed both countries had a "joint responsibility" for Spitzbergen. With complete openness it sent reinforcements to the island and erected military installations and administrative agencies and thus violated Norway's sovereignty. Moreover, it charged Norway with having violated the Paris treaty because of the presence of its navy and air force.

Norway's minister of foreign affairs rejected this reproach in a speech on foreign policy in December 1976 and declared that his government attached great significance to the "unambiguous and effective exercising of sovereignty" over Spitzbergen and had taken appropriate measures. He added that Norway's navy visits "fall into the domain of what is allowed for Norway according to the statements in the treaty."

The Soviet Union also proceeded in a similar manner in setting the border on the continental shelf of the Barents Sea and in setting the fishing

zones. It sought to occupy by force a 155,000-square km area of the sea to carry out rocket launching exercises, although this section of the sea legally belongs to Norway. This area is also of extraordinary military importance because the strategic air forces and ICBMs, in the event of a war between the Soviet Union and the United States, must necessarily fly through here and Spitzbergen represents for the North Sea fleet a strategically favorable base of operations against the communications lines between Europe and the United States. Beyond that it is also of economic importance because the continental shelf is rich in oil and natural gas and the sea presents a rich fishing ground.<sup>21</sup>

#### The Merchant Marine

The merchant marine constitutes an additional building stone in the concept of the Soviet Navy. It has likewise been expanded at enormous expense. The military value is obvious. For after all in case of war it can transport large quantities of civilian and military goods.

Although the Soviet merchant marine is already the "strongest industrial navy in the world" (Gorshkov 1975, p 172), it was decided at the 25th CPSU Congress that "the fleet will be enlarged by large tonnage and special ships."<sup>22</sup> The Soviet Union has been trying for about 15 years to gain predominance in merchant shipping, too: South Pacific cruise business meanwhile has to a considerable extent gone to the Soviet merchant marine because of price undercutting; trade with "partner" Australia is for the greatest part being taken care of by Soviet ships. In all, Western shipping companies are hopelessly inferior on all oceans to the competition from the Soviet merchant marine--not least on account of the aggressive Soviet undercutting policy. In the service between Hamburg and England East bloc companies (Deutsche Seereederei, Baltic Shipping Company and Polish Ocean Lines) have taken between 10 and 30 percent of the cargo away from Western shipowners. Between Hamburg-Bordeaux and Australia the Polish line transports up to 40 percent of total freight volume. The Russians dominate up to 80 percent of the maritime trade between Sweden and the Soviet Union, and completely dominate the trade between Italy and the Black Sea. (DIE ZEIT, 12 November 1976)

With the establishment of more and more scheduled shipping services the Soviets in the last 15 years have built up in Western Europe, the United States and in the Far East their own agency network which, under the designations "Sovinflot" and "Sovfracht," in part acquires cargo with Western partners, is active as a forwarding agent and dispatches ships.

Today the social imperialists have "the largest fishing fleet in the world, the largest research fleet with 7.3 million gross register tons [GRT], the largest fleet in traditional mixed cargo service (FRG: 2.4 million GRT) and with 19.2 million GRT (behind Liberia, Japan, Great Britain, Norway, and Greece) the sixth largest merchant marine overall (FRG 8.5 million GRT)." (Ibid.) Soviet cargo ships have secured 7 percent of West European ocean traffic and 8 percent of U.S. ocean traffic. (SZ 22/23 January 1977)

According to a TASS report from the beginning of January the tonnage of the Soviet merchant marine is to rise by the end of the year by almost 0.5 million tons. By 1980 it is to rise by 4.6 million tons in all; the construction of new passenger ships is also planned in this.

#### Bases and Territorial Rights

In order to be fit for action anywhere in the world the Soviet Union--just like the U.S. imperialists--requires bases, navy bases, port and anchorage rights. Thus, the network of bases has been steadily growing in the last 10 years.

In Conakry in Guinea on the west coast of Africa they have built an airport, have harbor rights and station about 3,000 military advisors. Likewise in Somalia, on the east coast of Africa, in Berbera, they have a military base with about 3,000 military advisors. (FAZ 4 March 1977 and 16 December 1974) No sooner is one of the colonialist powers forced out a corner of the earth than the Soviet Union tries to move right in. This action is most recognizable in the Indian Ocean. (THE TIMES, London, 16 June 1972 and 17 April 1974)

In 1968 the first Soviet warships penetrated there; today in the Indian Ocean there are always at least 20 units of the Red Navy at anchor. The USSR built harbors in Hodeida (Yemen), in Berbera (Somalia), in Umm Kasr (Iraq) and on the Adamanen Islands. There are other bases in Mogadishu (Somalia), the Socotra island group and in Aden; it has harbor rights in Zanzibar, Madras (India) and Vis Akhapatnam (India) as well as in Massana (Ethiopia). (DIE PRESSE, Vienna 6 July 1975)

In 1973 a Soviet naval unit cruised so close and so long off the coast of the small island of Mauritius until the government in Port Louis accorded the Soviets fishing and docking rights. (BAYERN-KURIER 8 January 1977)

The Soviet Union reveals similar activities also in the area of the South Pacific, where it wants to build a "large international airport" on Tonga, a small centrally located island. (FAZ 8 September 1976)

From this it becomes clear how the "Red Navy" is being used as an offensive instrument of foreign policy. Especially revealing in this connection are the statements by Leonid Brezhnev at the 25th CPSU Congress: "And something else. Recently, in a number of countries actions have been increasing to keep the Indian Ocean space from turning into the scene for these or those powers to get military bases. We sympathize with this action. As far as the Soviet Union is concerned we did not and do not have any intention of securing bases in the Indian Ocean." (emphasis by the authors) (see note 22, p 30)

Naturally there are difficulties between the Soviet Union and various countries of the Third World. Thus, in the meantime, there are resolutions by the Third World not to tolerate foreign bases any longer.

Bangladesh has ordered the Soviet Union to leave the country. In the case of India there are indications of similar steps since the last parliamentary elections. And even in Somalia there is resistance: Representatives of the Red Sea border countries just met to deliberate about whether the Soviet Navy should be ordered to leave the area. Still South Yemen was also present. The initiative came from the Arab Republic of Yemen.<sup>23</sup> In the event that in specific areas no country at all declares itself ready to make bases available to the Soviet Union, it can use gigantic floating docks if ships have to be repaired.<sup>24</sup>

The question of passage through the overflying national territorial waters, especially straits, is closely related to policy on bases. For a rather long time the countries of the Third World have been trying to expand their territorial waters to 12 nautical miles and the economic zone to 200 nautical miles. That is also being opposed especially by the Soviet Union because the mobility of its military and civilian navies will thus be considerably restricted and a "rape" of biological and mineral resources will no longer be possible on an unlimited basis.

With the introduction of the 12-mile zone the most important straits would come under national sovereignty and free international passage would have to be regulated anew. This concerns among others the Straits of Dover, the Straits of Gibraltar, the Straits of Hormuz (between Oman and Iran), the Straits of Babel Mandeb (between Ethiopia and Yemen), the Straits of Malacca (between Indonesia and Singapore). That would naturally be a severe blow for superpowers bent on expansion, for their navies would have to apply for free passage every time. That touches on the problem of their merchant ships and warships, which are creating unrest throughout the world because "in limiting territorial waters to 12 nautical miles 110 straits which are used by international shipping would be covered by the territorial waters of coastal countries." (Gorshkov 1975, p 170)

Furthermore, the Soviet Union is opposing the introduction of an economic zone, that is, a 200 nautical mile-wide strip of water along the coasts. In their view then "40 percent of the surface of the oceans of the world (...) would be controlled by states and would be excluded from general use by all nations and the North Sea, the Mediterranean, the Caribbean and other seas would be divided up between a small number of coastal countries." (PRAVDA, 12 February 1976)

The introduction of a 200-mile zone would very definitely make the operation of Soviet fishing and merchant ships more difficult, especially those with military equipment on board. (SZ, August 1976) "For many countries unimpeded passage of all ships through international waterways is of decisive importance as a factor in the protection of their own security." (PRAVDA, 12 February 1976) In fact--the question is only whether all countries and states even want to be "protected" by Soviet warships.

Since the Soviet Union does not want to be completely on the sidelines vis-a-vis the countries of the Third World it agrees verbally to their demands, but at the same time suggests an "international convention" which would control the questions involved concerning economic use and free passage. In this it is speculating on "general forgetfulness" of the countries concerned. For in summer 1976 it was possible to study in detail how the Soviet Union acts in observing conventions by using the example of the Convention of Montreux which controls passage through the Dardanelles and Bosporus, while a legitimate right of the United States, the passage of a frigate through the Dardanelles, was condemned as a wrong. (ND, 5 September 1966) A convention for the USSR today has only as much value as the paper on which it is written.

#### Communications Systems and Information Acquisition

The last area to be investigated and presented here embraces communications and information equipment which the Soviet Union uses in order to secure contact with the units operating in all oceans.

The exact time and the exact location are absolute necessities for rocket launch systems. For only with the help of these values are the computers in a position to calculate the guidance parameters for the launch pads and the flight. For launchings from submerging submarines there is the added complication that direct radio contact is not always guaranteed so that they must also depend on the use of satellites. For example, during the OKEAN 1975 maneuvers communications with all units in every phase were assured by satellites. (NEWSWEEK, 21 February 1977) The United States uses similar systems for communication with atomic powered submarines.<sup>25, 26</sup> In 1974 and 1975 the Soviets put 199 satellites into orbit, the United States only 45. In all, the Soviet Union to date has launched about 900 satellites of the Cosmos series;<sup>27</sup> a part of these can be used as so-called pursuit satellites.<sup>28</sup>

#### Soviet Navy Doctrine

In the following section we will quote Gorshkov extensively. We do so from his book "The Role of Navies in War and Peace," which at present is the only one freely available, and from the most recent work "Seapower of the State," accessible only in excerpts. (Cf. note 2)

Strategic considerations and objectives are set down there which of course advance "technological pressures of the situation," "economic considerations" and "historical lessons," but in fact are a blackbook of Soviet plans of aggression. The integration of military, ideological, strategic, economic, diplomatic and political elements into a unified navy doctrine has aroused the admiration of the U.S. competitor which is marked by internal controversy between the different service branches. U.S. Secretary of the Navy Middendorf spoke of Gorshkov as "perhaps the greatest

sea strategist of our time" and compared his book to Hitler's "Mein Kampf." (DIE WELT, 28 September 1976)<sup>29</sup>

In his historical look backward Gorshkov first establishes in a manner "free of judgment" that without a powerful navy the Soviet Union would not be in a position to enter the ranks of the great powers. (Gorshkov 1975, p 173) What did Czarist Russia want in the "ranks of the great powers?" It wanted, just as they did, to conquer colonies and markets. Thus, in the Russo-Japanese war it was a matter of securing territories taken illegally from China by the Czar, mainly the port Vladivostok (= Port Arthur) and the establishment of the Czar's empire as an Asian sea power. The Soviet government today holds this Czarist "inheritance" in high esteem. As the Czarist empire joined the great powers by the building of the navy, today, according to Gorshkov, it is "essential" for the Soviet Union "to build up a navy which is commensurate with the interests of a world power." (Ibid.) Such a navy must count on two opponents: the United States and the Third World, which does not want to go from the frying pan of U.S. domination into the fire of Soviet control. In this regard the immediate enemy of the Soviet Navy is the U.S. Navy, while the real goal at present is the control of the rich resources of the countries of the Second and Third Worlds; these resources are situated between the two superpowers. (Gorshkov 1975, p 166)

#### The Soviet Navy and the United States

Gorshkov's navy is supposed to emphatically "force" the United States "to realize that the ocean, which in the past protected the American continent from retaliatory blows from the victims of aggression, has completed its role as a protective barrier." (Gorshkov 1976, p 106) Here Gorshkov takes warnings from World War II. In fact, at that time the United States, which supported the antifascist uniform front, was protected by the ocean from the "retaliatory blows of the victim of aggression," namely the Nazi empire with which Gorshkov in this case puts himself on a par. "In the middle of the fifties our country began to build on a large scale a powerful, ocean-going navy equipped with nuclear missiles," writes Gorshkov and in so doing correctly defines the turning point in Soviet Navy policy to a policy of imperialist expansion. (Gorshkov 1976, pp 290 and 292) This navy had the strategic mission of destroying the military-economic potential of the enemy by direct attack on his vital industrial centers with nuclear blows coming from the sea." (Gorshkov 1976, p 6) "The basic direction which we have followed in the qualitative change of our navy in the midst of the scientific-technical revolution caused by atomic energy and nuclear weapons were:

1. construction of a nuclear powered submarine fleet,
2. introduction of guided missiles and nuclear warheads and the construction of launch systems for ballistic weapons from submerging submarines,

3. construction of a naval air force for ocean flights,
4. construction of aircraft carriers,
5. qualitative change in methods and weapons for anti-submarine warfare,
6. introduction of the latest findings of radio electronics, remote control of weapons systems and the use of computers." (Gorshkov 1975 p 160)

In this connection the building of submarines and the development of ICBMs which can be launched from submerged boats is primarily aimed as a threatening gesture toward the United States. In this the Soviet Union meanwhile has a lead vis-a-vis the United States both in the number and quality of submarines and missiles. The submarine fleet is to be able to simultaneously cut shipping routes if in a global or local conflict the question arises concerning occupying certain countries in Europe or the Third World. According to Gorshkov, in World War II "in the battle on the sea routes the different classes of the navy by no means played an equally large role. Thus submarines sank over 65 percent of the total number of transport ships destroyed, air forces about 20 percent and surface ships about 6 percent." (Gorshkov 1975, p 136) To that extent "submarines in World War II were actually the most effective weapon against the enemy's shipping." (Ibid, p 137) Gorshkov modestly holds back the fact that it was chiefly the submarines of fascist Germany which sought in this way to stop supply deliveries to Europe by the Allies. The stationing of submarines in the OKEAN maneuvers showed that Gorshkov is thinking of just this role of submarines even in a war for Europe.

If submarines primarily serve the direct strategic threatening of the U.S. competition and disrupting transport routes, then a second division of the Soviet Navy is ready for direct landing maneuvers between the two superpowers. This chiefly concerns aircraft carriers, landing ships, transport ships, the navy air force and finally the massively expanded naval infantry which, like the American "Marines," should primarily fulfill the tasks of occupying land targets.

Gorshkov describes the connection between these two branches of the Soviet Navy explicitly when he writes: "The advantage which was given to submarines does not, however, (exclude) a corresponding development of other kinds of sea forces, but rather even presupposes it." Therefore "the most diverse combat systems" are essential: "surface ships, a broadly spread air force, marines, coastal artillery with rockets and many units for supply and maintenance." (Gorshkov 1976, quoted from DIE WELT, 28 September 1976) The next section deals with this part of the invasion and landing fleet.

#### The Soviet Navy and the Countries of the Second and Third World

Gorshkov writes: "The advance of the Soviet Navy into the oceans has opened up new and widely dispersed possibilities (which can) also be used

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in peace to further our national interests. And these possibilities are being successfully used." (Ibid.) What would the Soviet Navy like "in the oceans" and what are the possibilities which it hopes will open up for it?

Gorshkov says that local wars in the intermediate zones between the superpowers are especially important today "because in the domain of the policy of imperialism there will always be local wars which it wages virtually incessantly." They "contain under certain circumstances the danger of expanding into a world war." (Gorshkov 1975, p 178) In order to stand up for the advancement of our national interests and to keep local wars from "expanding into a world war," the Soviet Navy must intervene. Stationing the naval units along the coasts of Europe, Africa and South Asia, the plan of the maneuvers and the present power relations clearly show that the intervention potential mentioned is primarily aimed at these regions; its use in Angola is the first live example.

Gorshkov introduces into navy theory the capturing of foreign territories by the navy as a revolutionary "innovation" and designates as a primary target today the conquest of foreign territories: "In this way the traditional operations of navy against navy, which since antiquity have been typical of the battle to interrupt sea communications, will take place in a new decisive dimension of warfare, in maritime actions against land targets. This new form of the operationally strategic use of sea power already dominates maritime thought and will be a basic element in maritime warfare in which case all other elements on all operational levels will be subordinate to this." (Gorshkov 1976, p 361) For that reason the use of the Soviet Navy to "interrupt enemy sea transport, to establish a blockade in front of enemy ports and to conquer coastal areas, islands and remote areas" or for "carrying out an unimpeded surprise attack on the coasts" is on the agenda. (Gorshkov 1976, p 270)

For this purpose Gorshkov has taken warnings from the strategic considerations of the United States at the beginning of the sixties which were also made generally available in the Soviet Union in a Russian translation of the book "The Out-of-Tune Trumpet" by Maxwell Taylor. The buildup of a flotilla of aircraft carriers, landing units, marines, navy air force and supply units for attack at any point or to intervene in smoldering conflicts has meanwhile continued to thrive. In this regard the construction of aircraft carriers and other surface ships is of particular importance. Aircraft carriers are easy to put out of action with ICBMs, and are therefore not directly suited to war between the two superpowers. But they are an ideal point of departure for the navy air force in international waters in order to take massive military action in a country as the United States did in Vietnam. The accelerated building of aircraft carriers of the Kiev class is a component of this strategic concept to erect air force bases in order to support land operations against other countries. On the subject of the landing fleet of the Soviet Union, Gorshkov writes: "Today surface ships are an essential component of

landing forces and are an essential support for land operations." "They play the main role against mines and in securing communications between landing forces." (Gorshkov 1976, p 320) Such landing maneuvers with air force support and heavy equipment have been ardently practiced for years by the marines of the Soviet Union because "those forms and methods of sea warfare which are aimed directly at land targets will in any future conflict play an ever greater role." (Ibid, p 354) The development of the integrated navy forces of this superpower is assessed by Gorshkov in such a way that "our navy today is not only in a position in its operations against land targets to carry out tasks in which land areas change ownership, but rather even to directly influence the outcome of the war." (Ibid, p 360)

However, Gorshkov is by no means so short-sighted as to limit the use of the navy to times of war. The arsenal of graduated threat, developed by the United States, is expressly emphasized by him, too: "In times of peace the economic and military might of a country can be vividly demonstrated beyond its borders," writes Gorshkov and continues: "Therefore, the capability of navies to appear surprisingly close to the coast of different countries and to begin without delay to fulfill the tasks set for them has been used for a long time by various countries as an important weapon of diplomacy and politics in times of peace. Thus it becomes possible in many cases, you see, to achieve political goals without starting a war, but by threatening one." (Gorshkov 1975, pp 152-153) As admiral of the navy he has resorted to this instrument on various occasions, for example in the extortion of the small country Mauritius.

Nevertheless the expansion of the Soviet Navy in all oceans is also meeting with increasing resistance, as is that of the United States. At the suggestion of the Third World countries a new law of the sea is now being prepared which would limit the free mobility of the Soviet Navy considerably. Gorshkov indignantly rejects the demand of the developing countries to make straits in which the strands of international shipping come together also subject to new regulations of territorial waters and to expressly include warships and to make them individually subject to authorization. Apart from the fact that plundering the rich resources of the sea by the superpowers would thus be severely limited,<sup>30</sup> in it he sees endangered--and with justification--his concept of a globe-circling navy for aggression. He writes: "A characteristic peculiarity in the current phase is the fact that several Afro-Asian and Latin-American developing countries persist in the revision of all norms in force for regulating the use of the ocean with the justification that they were not involved in their preparation. They claim in particular that the present law of the sea is outdated and is not in keeping with the changes that took place in the world after 1958. The representatives of these countries defend their positions on the level of the struggle between rich and poor, the backward and the industrially developed countries, which, as they state, allow encroachments to occur at the expense of the national interests of the former. (Gorshkov 1975, p 168)

The "natural ally of the Third World" proceeds to plain talk when he writes about the striving of Third World countries for independence and their desire to become free of constant threat by the navies of the superpowers: "The delegation from the USSR and the other socialist states have...sharply criticized such extremist views in the United Nations." (Ibid, p 168)

Finally, Gorshkov gives some good advice: "The key to the solution of this problem rests in limiting, without delay, the expansion of territorial waters because a further delay could produce the danger of actually dividing up the open sea." (Ibid) Which would take away the space for action from the "show-of-force" and "landing operations" of the Soviet Navy as well as from their "fishing ships" and "research ships": Beyond these endeavors, which in the meantime are also supported by most smaller capitalist countries in Europe, new groups of border states on seas and oceans are continually joining together in order to make their seas into "super-power-free" seas--a demand which meanwhile has been made for the Indian Ocean, the Red Sea and the Mediterranean and which is aimed against the navies of both superpowers.

It is clear from Gorshkov's strategic considerations, presented here only in outline, that a large number of factors must be included and weighed in order to assess the strength and objectives of the Soviet Navy today. However, in many publications of the arms research institutes, such as the London Institute of Strategic Studies, the SIPRI in Stockholm or the statistics which were published in the coverage of the SALT negotiations, an analysis approach is being chosen which is reduced to comparison counting of arms. Such a reckoning of rockets against rockets, cannons against cannons and ships against ships, of course contains elements which are of great significance for an all-round assessment, but is in no way suited to providing a real estimate of strength.

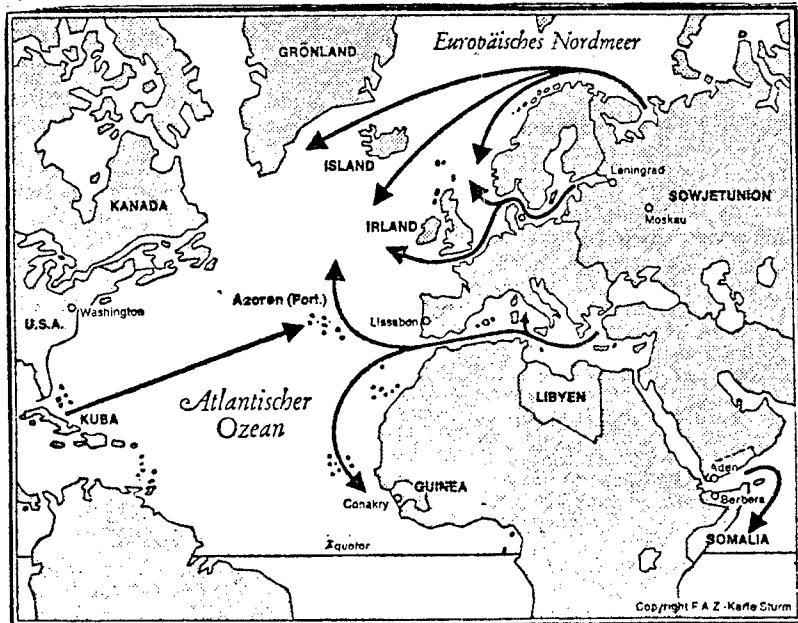
Without the ideological infiltration of the Popular Movement for the Liberation of Angola [MPLA] a split of this organization and the removal of the progressive forces from its leadership would not have been possible, and without this development the Soviet Union would not have succeeded in scattering the three liberation movements. Without the support of the other two liberation movements by the regime in South Africa, which is rightly detested among the peoples of Africa, the massive (in terms of time, anticipatory) Soviet "support" for the MPLA could not have been justified. Without the Soviet policy of isolation of Cuba and the Soviet policy of "supporting" and "grabbing" Cuba the Soviet Union itself would have had to intervene and in all frankness would have appeared as an invading power. The appearance of the Cuban revolution in many countries of the Third World and the common historical past of many inhabitants of Cuba and West Africa could thus be brought in as capital in a business the interest from which only the Soviet Union is planning to collect. Without the old connection between the MPLA and Yugoslavia the Soviet pressure on this country to make possible the necessary intermediate stop for Soviet transport planes to Angola would presumably have been

unsuccessful. Without the extensive incapacity to act on the part of the American government and the favorable position of large Soviet Navy units off West Africa at the "right" time the reaction of the American superpower would presumably have appeared different.

These different factors are for the present simply listed here without further weighting. From them it immediately becomes clear that only a concrete analysis of the ensemble of Soviet and American potential in military, economic, ideological, organizational and political respects can result in a correct assessment of the power relation. The strongly technistic beginning of so-to-speak counting cannons against each other takes into account the fact that with their military plans<sup>31</sup> both superpowers surely cannot rely on the enthusiastic support of the people and thus weapons play an especially important role with them. As the example of Angola shows the purely military-technical analysis ultimately results in an enormous underestimation of the offensive potential of the USSR today since it does not include the ideological, political and psychological factors in which the USSR today is still clearly superior to the United States, which stands largely isolated.

This constant underestimation of the Soviet offensive will and offensive potential in a number of Europe's institutions is itself an element of a political disagreement which goes much further. For it corresponds directly to the attitude of most West European social democracies to which these institutions are frequently oriented, and whose "Ostpolitik" they do not want to disavow.

This can be seen more clearly where other positions are represented. FGR Minister of Defense Georg Leber had Belgian tank general Close, the deputy director of the NATO College, replaced, because he publicly and in a book had made known his assessment that the Soviet Union could be at the Atlantic with its troops in scarcely 3 days time from a standing jump. This coercive measure on the part of Leber points to the fact that it is not a matter of a difference of opinion, in which case one can be convinced by facts, but rather of a political attitude in large segments of the Federal Government, which, in reference to the other superpower, the USSR, sees a way out of the smoldering economic and political crises and thus actively oppose anyone who publicly refers to the madness of such a concept and the peril of the consequences which result from this indirect financing of the Soviet war economy.



Encirclement of Europe and Severing of NATO Supply Lines  
by the OKEAN Maneuvers

FOOTNOTES

1. Alexandra Herrmann, "Aircraft Carrier in Disguise: The Passage of the Kiev through the Bosphorus," in BEFREIUNG No 8.
2. Sergey G. Gorshkov, born on 26 February 1906 in the Ukraine, was a rear-admiral at age 31 and since 1956 has been the supreme commander of the Soviet Navy.

His most recent book "Sea Power of the State" was published in Moscow by the Military Publishing Co in 1976. There are copies in the library of the Bundeswehr Academy in Hamburg-Blankensee and the Foundation of International Policy and Security in Ebenhausen near Pullach/Munich.

In an article on 28 September 1976 excerpts were published by DIE WELT which replied to any inquiry by saying that inspection was very difficult for "normal people." A book review appeared in the Soviet military journal SOVIET MILITARY REVIEW [SMR], No 8, 1976, Moscow. Excerpts in English translation were published in the Jan/Feb issue of the professional journal SURVIVAL from the International Institute for Strategic Studies (IISS), London. (Cited in the following as "Gorshkov 1976")

By the same author: "The Role of Navies in War and Peace," Munich, J. F. Lehmanns, 1975. (= Wehrforschung aktuell [Current Military Research] Vol 2) (Cited in the following as "Gorshkov 1975")

Translations from a series of articles in the Soviet journal MORZOY SBORNIK, Moscow 12d, KRASNAYA ZVEZDA, Nos 2-6, 8-12, 1972 and 2, 1973.

3. "The Military Balance," London, International Institute for Strategic Studies (IISS), 1976-1977, p 97 ff. Besides this there is a tabular survey of new construction in the naval sector for the years 1965-1976 in SURVIVAL, No 5, 1976, p 204.
4. The various conditions enter into this comparison only in a limited way.
5. In this connection cf. the book by NATO Gen R. Close, "L'europe sans defense. Diffusion Gamma," Brussels, and a review of it in SZ [SUEDDEUTSCHE ZEITUNG] 29 January 1977.
6. "The situation in the West and the United States today reminds me of the situation in which England and France found themselves in 1935. ... There were clear indications of what Hitler was doing. There were clear indications that he was thinking of war in some form or other. And yet Winston Churchill stood almost alone: only very few took the indications seriously and warned of the danger of war." (Gen George Keegan in DIE WELT, 12 February 1977)
7. Cf. the chapter "Bases and Territorial Rights."
8. For example in SMR No 12, 1975, p 35, in the article by Col V. Khobotov "The Shields of Socialism."
9. "Documents and Resolutions of the 25th CPSU Congress," Moscow, APN-Publishing Co, 1976, p 28.
10. Of late the Soviet Union has been using the artifice "stop the thief" in a way that "aggressive imperialist circles" in the West "under the false pretext of a Soviet threat stubbornly" resist "improving international relations" and "heat up the arms race." For this reason General of the Army Ivanovski, supreme commander of the group of Soviet armed forces, announced additional armament efforts by the Soviet Union (TSP, 24 February 1977).

NEUES DEUTSCHLAND is blowing the same horn when it charges the FRG with preparing for a new war (SZ, 12/13 February 1977).

11. Army Gen Alexey Yepishev, head of the main political administration of the Soviet Army and Navy: "Historic Mission of the Army of the

"Socialist State" (shortened version from KOMMUNIST in NEUES DEUTSCHLAND 2 September 1972), or also in the text for higher level cadres: Sagladin, "The Revolutionary World Process, Abstract of Strategy and Tactics," Frankfurt/Main, Marxist Leaves Publishing Co, 1974.

12. The report that detente policy is a "fuse" that is to make possible a shifting around of the power balances in the world comes from the AP and REUTERS, quoted again from the TIROLER TAGESZEITUNG, 12 February 1977.
13. By way of information: the book "Military Strategy," published by Marshal Zokolovsky, appeared in 1962 right before the Cuban crisis. This is one of the few books that were translated into English; nonetheless, it was largely unknown in military circles outside the USSR.
14. These statements rely heavily on an article by A. O. Ghebhardt and O. M. Smolansky entitled: "Change in Soviet Navy Doctrine." Translation in the journal OSTEUROPA June 1976, Deutsche Verlagsanstalt, Stuttgart.
15. At the 19th CPSU Congress in 1952 Malenkov had already stated in the report of the Central Committee that "the point is that in the ranks of the party an uncritical attitude toward the deficiencies and mistakes in the work of party, economic and other organizations has developed in connection with the victorious ending of the war and the great economic successes in the postwar period..." Malenkov, "Report at the 19th CPSU Congress," Moscow, 1952.
16. Michael Mcc Gwire, "Maritime Strategy and the Superpowers," ADELPHI Papers 123, IISS, London, 1976, p 22.
17. For reports on the maneuvers see also: FAZ 20 June 1975, STUTTGARTER ZEITUNG 20 February 1976, HSINHUA 30 April 1975, DIE WELT 19 March 1977 and 17 February 1976, and in looking back at the OKEAN 1970 maneuvers: MAINICHI DAILY NEWS, Tokyo, 14 February 1973.
18. SMR, No 12, 1975, p 16, Moscow.
19. SMR, No 3, 1976, p 48, Moscow.
20. SMR, No 3, 1976, p 22, Moscow.
21. Major Gen Toenne Huitfeldt, "The Maritime Environment in the North Atlantic," ADELPHI Papers, No 124, IISS London, 1976. Huitfeldt is commander of the 6th Division of the Norwegian Army in Harstad.
22. "Documents and Resolutions of the 25th CPSU Congress," Moscow, 1976, p 173.

23. The situation in Africa is analyzed especially comprehensively by David Rees in "Soviet Strategic Penetration of Africa," in Study No 77 published by The Institute for the Study of Conflict, 17 Northumberland Avenue, London WC2N 5BJ, November, 1976.
24. See also DER SPIEGEL 31 March 1975 and 22 March 1977.
25. Richard Burt, "New Weapons Technology," ADELPHI Papers, No 126, 1976, especially p 7.
26. Col M. I. Galkin and others, "Scientific-Technical Progress and Revolution in Military Science," East Berlin, 1975. A very comprehensive book about the use of science and technology in war technology. Here, p 75.
27. SURVIVAL Jan-Feb, 1977, IISS London, p 16 ff. The Soviet "Anti-Space-Defense-Program" is very thoroughly investigated here.
28. Beside these technical aids the social imperialists, however, also make use of their diverse trade offices, embassies and their fifth columns, the revisionist parties, to "get information."

In the FRG not fewer than 10,000 people are said to have been recruited in which regard ostensibly 60 percent of Soviet espionage activity is aimed at industrial enterprises, mainly those of the nuclear industry, computer technology and chemistry. (TAGESSPIEGEL 29 January 1977, 15 February 1977)

29. Even Admiral Elmo Zumwalt of the United States expresses himself in like manner in the INTERNATIONAL HERALD TRIBUNE 29 July 1975.
30. "The main reason for the interest of countries in the ocean is its truly inexhaustible wealth. But its enormous military importance also attracts aggressive countries." (Gorshkov 1975, p 165)

"According to calculations by scientists there are in the seawater roughly 10 million tons of gold, 4 billion tons of uranium..." Gorshkov 1975, p 164.

31. That resistance is stirring even in the military sector is demonstrated by the following incidents which have become known in spite of a news blackout:

August 1968: Desertions in Soviet units that illegally invaded the CSSR led to the replacement of entire divisions.

1969: Mutiny by the crew of an atomic submarine stationed in Riga.

Summer 1969: Arrest of a colonel and two lieutenants on a submarine of the Baltic Sea fleet. In 1968 they had distributed copies of a

letter in which the privileged classes of the country were accused of suppression and exploitation, the great Russian chauvinism was denounced and protest was raised against the armed intervention in the CSSR.

November 1972: Mutiny on a Soviet submarine in the Norwegian fjord.

November 1975: Mutiny on one of the most modern warships of the Soviet Navy, the rocket-destroyer Storoshevoy (Surveillance). According to the information in the newspaper EXPRESS (Denmark) the "...direct cause of the mutiny" was "the war in Angola. The sailors were infuriated at the prospects of a lengthening of their military service." THE GUARDIAN, Manchester, 8 Jun 1976.

#### PHOTO CAPTIONS

1. p 82. Marines during a daring lightning attack (Photo by L. Yakutin)  
(original caption from SMR No 6, June 1976)

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## CORRECTIVE ACTION REPORTS ON COMPLAINTS AND CRITICISMS

### Student Complaints

Moscow SOVETSKIY PATRIOT in Russian 25 May 77 p 2

[Text] Students from the cost-accounting group from the Petropavlovsk Radiotechnical School have directed a complaint to the editorial board. The complaint describes violations in the organization of the training process. As we were informed by the chairman of the Northern Kazakhstan DOSAAF Obkom, R. Sutyushev, the facts outlined in the letter have been confirmed.

The chief of the school, M. Ivashchenko, was severely reprimanded for being intoxicated while at work. He was also assessed a party fine. An employee of the training organization, N. Gerasimov, was dismissed from the school for violations of labor discipline.

Students from the Otradnenskaya Vehicle School (DOSAAF) in Kuybyshev Oblast also sent a letter to the editorial board. They stated that the training organization is poorly equipped with the diesel vehicles which they require. There are only two MAZ-200's, which are already subject to being written off.

As the Deputy Chief, Central Motor Vehicle and Tractor Administration, USSR Ministry of Defense, Maj Gen Engr V. Popov, informed us, at the present time, the Otradnenskaya Vehicle School has been allocated two MAZ-500 and two KrAZ-257 vehicles.

### Poor Living Conditions

Moscow SOVETSKIY PATRIOT in Russian 29 May 77 p 2

[Text] In his letter to the editorial board, Comrade Yevdokimov of the Kaluga Air Club complained of poor living conditions for the students. The chairman of the Society's Kaluga Obkom, I. Kozlov has informed us that the facts described in the letter have been confirmed.

The management of the air club has taken the necessary measures to provide normal living conditions for the student-recruits. The buildings are now heated. Supervision has been strengthened over the boiler-room stokers. A regular physical conditioning program for youth has been implemented. The preventive care and treatment program has been improved for the prevention of cold-like diseases.

#### DOSAAF Operational Problems

Moscow SOVETSKIY PATRIOT in Russian 19 Jun 77 p 3

[Text] The editor's office has received a letter from Lt Col (Ret) V. Boldyrev of the city of Kotel'nikovo, Volgograd Oblast, in which the work of the Kotel'nikovo DOSAAF Raykom and its chairman, A. Nikitin, was criticized. The chairman of the Volgograd DOSAAF Obkom, K. Plakunov, has informed us that the oblast committee of DOSAAF has verified the situation described in the letter from V. Boldyrev. During the course of the check, it was established that A. Nikitin permitted serious errors in the management of the activities of the DOSAAF Raykom and the sport club.

With the chief of the sport club, he was unable to organize the timely repair and write-off of vehicles that had completed their service periods. Deficiencies existed also in the organization of military-patriotic education for workers. Nikitin left a great deal to be desired in the supervision of lower eschelon organizations and was guilty of poor management concerning the operations of DOSAAF primary organizations.

The question of A. Nikitin's work was discussed at a meeting of the DOSAAF oblast committee presidium bureau. He received a reprimand for deficiencies in the management of the defense-large scale activities. The bureau has demanded that within two months, all available equipment be restored to working order, and that organizational-large scale work be improved, work which is to be conducted in strict accordance with the requirements established by DOSAAF Regulations and the decisions of the Eighth Congress of the Defense Society.

The bureau outlined a series of specific measures to assist the Kotel'nikovo Raykom of DOSAAF in the improvement of defense-large scale activities.

#### Driver Training Problems

Moscow SOVETSKIY PATRIOT in Russian 29 Jun 77 p 3

[Text] A student from the Chirakchinskiy Sport Club (STK), Kashkadar'inskaya Oblast, R. Arziyev, has sent a letter of complaint to the editorial office. He complained that the students are not receiving the required vehicle driving time.

The chairman of the Kashkadar'inskiy DOSAAF Obkom, A. Kogdanin, has informed us that the facts cited in the letter have been verified.

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The fact is that five groups were simultaneously involved in the training of drivers for the 3rd class rating at the club, and in addition, the club had only seven training vehicles, which were assigned to the graduating groups. At the time the complaint was written, according to the trip sheets and notations in the individual driving record booklets, each student had from 12 to 25 hours.

At the present time, three vehicles have been assigned to group No 17, and practical driver training is being conducted in two shifts.

The complaint was thoroughly discussed in the presidium of the DOSAAF Raykom. At the direction of the DOSAAF Obkom chairman, STK Chief N. Klychev was reprimanded for displaying rudeness to a student. The material from the check of the Chirakchinskiy STK will be examined at the oblast meeting of vehicle school chiefs and oblast STK chiefs.

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CSO: 1801

## FOLLOW-UP REPORTS ON PREVIOUSLY REPORTED DEFICIENCIES

### Treating An Extended Illness

Moscow SOVETSKIY PATRIOT in Russian 29 May 77 p 3

[Text] The chairman of the Kostroma DOSAAF Obkom, N. Zakharov has sent a reply to the editorial staff to answer the critical correspondence which was published in the paper on 13 April of this year under the heading, "Extended Illness." In the reply it was stated that the newspaper article was discussed during meetings of the DOSAAF Presidium (oblast) and of oblast committee primary organizations of the Defense Society. At both meetings, the criticism contained in the correspondence was recognized as being justified.

At the obkom presidium meetings measures were developed and ratified for the oblast, rayon, and urban committees to eliminate the deficiencies outlined by the newspaper. The chairman of the Leninskiy DOSAAF Raykom of Kostroma, V. Kravchenko, pointed to the necessity for improving the work of the raykom in the management of the Society primary organizations. Particular attention is being focused upon the development of socialist competition in honor of the 60th anniversary of the Great October Revolution in those organizations. The obkom presidium has required that all rayon (urban) committees discuss during the month of May the correspondence "Extended Illness" at meetings of their presidiums and to adopt measures to eliminate the deficiencies outlined in the rayon and city organizations of DOSAAF.

In carrying out the measures outlined by the presidium, the obkom is drawing generalizations from the progressive experience of the Buyskiy City Committee and the primary organizations of DOSAAF at the Kostroma Flax Combine imeni V. I. Lenin. Seminars are being conducted with committee chairmen of Society primary organizations, and a seminar is to be held with chairmen of the rayon (city) DOSAAF committees. STK's are being established in a number of oblast rayons. Measures are being undertaken to create and perfect a training-material base and to improve the financial-accounting condition of the obkom, and of rayon and urban DOSAAF committees.

### Large-scale Fabrication

Moscow SOVETSKIY PATRIOT in Russian 15 Jun 77 p 3

[Text] Such was the title of the critical article published in the 27 March 1977 issue of this paper. We were informed by the deputy chairman, Kazakhstan SSR DOSAAF Central Committee, A. Balandin, that the paper article was discussed at the meeting of the Kazakhstan DOSAAF Central Committee presidium. It was noted that the facts set forth in the article did occur in the work of the Eastern Kazakhstan DOSAAF Oblast Committee. The DOSAAF Obkom in a number of occurrences did not critically evaluate information received from the rayon (city) committees, failed to verify that information, and has a weak appreciation of local situations.

The Kazakhstan SSR DOSAAF Central Committee Presidium is requiring that the article, "Large-scale Fabrication," be discussed at meetings of all oblast, city, and rayon Society committees within the republic and is obliging them to adopt the necessary measures to provide for a strict check of accountability for all indicators of defense-large scale activities, and to establish a procedure under which all annual reports submitted to higher-echelon organizations are ratified at the meetings of the appropriate committees.

As the editorial staff was informed by the chairman of the Eastern Kazakhstan DOSAAF Obkom, I. Maklakov, the article, "Large-scale Fabrication" was discussed at the meeting of the DOSAAF Obkom Presidium. The chairman of the Zyryanovskiy Urban Committee of DOSAAF, Ye. Dudarevoy, received a severe reprimand.

### First Among Last

Moscow SOVETSKIY PATRIOT in Russian 26 Jun 77 p 3

[Text] Such was the title of critical correspondence published in the 6 April 1977 issue of "Soviet Patriot." The topic of the article was deficiencies in the work of the Shuyskaya DOSAAF Vehicle School.

As the deputy chairman of the Ivanovskiy DOSAAF Obkom, Ye. Revenko, informed us, the critical article of the newspaper has been recognized as being correct. The correspondence, "First Among Last" has been discussed at the meeting of the Society Obkom presidium, at meetings of oblast DOSAAF training organization management personnel, in the pedagogical council, and at the local labor union committee of the Shuyskaya Vehicle School.

After the newspaper article the Shuyskaya Vehicle School developed a plan to improve methodological work, to increase the role of the pedagogical council, and to also improve supervision over the progress of the training process. All instructors have been assigned tasks in methodological

developments according to the changed driver training program. Camera equipment and projectors have been acquired for the introduction of equipment into the student training process.

A definite work program has been carried out at the school to perfect a training-material base: working areas have been equipped at the special equipment servicing point, provision has been made for the evacuation of exhaust gases, and the MAZ-200 fueling unit has been installed. The class on layout and operation of automobiles has installed a set of units and sub-assemblies of the GAZ-66 vehicle, and the vehicle servicing class is equipped with new line engines. Work has been done to improve the motor-pool.

The oblast DOSAAF committee in cooperation with the Shuyskiy City Committee of the CPSU are adopting measures to improve the personnel of the Shuyskaya Vehicle School.

#### According to Their Deserts

Moscow SOVETSKIY PATRIOT in Russian 29 Jun 77 p 3

[Text] On 15 May 1977, SOVETSKIY PATRIOT published a critical article, "Spark In the Instructors' Room," which dealt with deficiencies in the DOSAAF Vladivostok Vehicle School. As the chairman of the Primorskiy Kraykom of the Society, I. Karelina, informed the editorial staff, the newspaper article was admittedly justified.

The Presidium of the DOSAAF Kraykom issued a strict reprimand to the chief of the Vladivostok Vehicle School for weak supervision of the training organization and a reprimand to his deputy, V. Naloma, for dereliction of duty and abuse of position. The chief of the school is G. Davydov.

The chief of the vehicle school was given a period of one month to eliminate the deficiencies outlined in the newspaper article. G. Davydov was advised that in the event of repeated deficiencies, his continuance in the post of school chief would be open to question.

#### Measures Undertaken

Moscow SOVETSKIY PATRIOT in Russian 6 Jul 77 p 2

[Text] "Pranks of the House-spirit" was the title of the "satirical article" published in the 18 May 1977 issue of the paper. The article was devoted to deficiencies in the organization of the training process and the weak educational work among the permanent personnel of the Ufa DOSAAF Technical School.

As the editorial staff was advised by the chairman of the Bashkirskiy Obkom of DOSAAF, Sh. Minigulov, the facts outlined in the feuilleton did take place.

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The critical newspaper article was discussed at the general meeting of the training organization collective. The technical school deputy chief for training-industrial courses, Ye. Kozlov, has been discharged. The chief of the training organization, S. Kitanov was severely censured for his lack of supervision in accounting for driver training hours accumulated on transport equipment.

Industrial training foremen, violating the procedure for officially recording trip sheets and training documentation, were given a severe warning. At this time, all practical driving exercises for motor vehicles and armored personnel carriers are carried out in strict accordance with program requirements. A class on proper official recording of trip sheets and individual record account of practical driving hours of motor vehicles and armored personnel carriers has been conducted with industrial training foremen. The actions of instructor A. Bykov and the industrial training senior foreman, A. Andresov, were censured at the general meeting of the technical school collective.

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## HELICOPTER MAINTENANCE PROCEDURES DESCRIBED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 77 signed to press  
31 May 77 p 30

[Article by Engr-Sr Lt. V. Zaytsev: "Where Reliability Begins"]

[Text] It is the day for preliminary preparations. Adhering strictly to the paragraphs of the regulation, flight technician Warrant Officer [praporshchik] A. Chepel' is carefully inspecting his rotary-wing craft, refuelling it, and replenishing its hydraulic fluids and air. He is one of the most experienced specialists. His helicopter has the greatest accrued flying time, in which regard, without a single failure. And this is not by chance. Chepel' prepares the equipment for each takeoff with maximum thoroughness and finds the slightest maladjustment on it in time.

It was also like that this time. In checking one of the systems, the warrant officer discovered scratches on the cable which controls the tail rotor, for which the commander declared his thanks to the leading serviceman and made him an example for the other specialists of the squadron's IAS [engineer aviation service]. On the initiative of the party activists, a printed news flash was published. It told about the high technical style of the right-flank socialist competition in honor of the 60th anniversary of the Great October.

Much is being done in the squadron for a further improvement in the effectiveness of preliminary preparation. Thus, for example, special-purpose inspections and technical drills are organized at which the personnel of the engineer-aviation service become graphically acquainted with where special attention should be focused in the course of servicing a helicopter.

The constant checking of aircraft equipment's condition is very important today in ensuring its high reliability. In particular, an analysis of entries in the log of preparation of rotary-wing aircraft for flight is of great assistance here. But for the analysis to be objective and provide the desired results, it is necessary to maintain the most accurate record possible of the work accomplished and the malfunctions which have been discovered as well as of the errors committed by the IAS specialists in the maintenance process. This is not at all minutia, as some technicians and mechanics think.

In looking through the logbooks and journals as well as other technical documentation you sometimes see that some specialists fill them out accurately and in sufficient completeness while others do it haphazardly, hastily, and besides it is learned that entries are even incorrect or entered in the wrong column. Then, naturally, erasures and corrections begin, engendering new inaccuracies. As a result, completely substantiated distrust of the data in such a logbook or journal appears willy-nilly and, most important, they can no longer serve the purpose for which they are properly intended. By the way, from the way in which the documentation is maintained it is possible to judge virtually without error the attitude of the officer or warrant officer toward the accomplishment of his official duties as well as his execution and technical style.

I still remember a case which occurred once in our squadron. Warrant Officer V. Shabaldin accepted a helicopter from Warrant Officer P. Onushkin. It would appear that they both were required to have a serious attitude toward such an important matter: to check the craft as well as the working order and functioning of all systems and assemblies carefully as envisaged in accordance with the corresponding documents. But the aviation specialists, without troubling themselves with an inspection, wrote in the acceptance certificate: "Helicopter in exemplary condition."

Thus, the warrant officers coarsely violated the requirements of the NIAS [engineer aviation service manual] and technological discipline. It is not difficult to imagine what would have occurred if other specialists, in verifying the entries, would prepare the craft for flights just as irresponsibly.

This case was analyzed in detail at a technical critique and the proper conclusions were drawn. The specialists were reminded that it is virtually impossible to conduct effective preventive work on contemporary aviation equipment from formal, and what is more, incorrect records, or determine and disclose the reasons for the appearance of individual malfunctions precisely so as to prevent them in the future.

Considering the special importance of the timely and accurate filling out of documentation, in the squadron we set aside and equipped a special place for this purpose, determined the hours for filling out the logbooks and journals, and began to hold those officers and warrant officers who are careless strictly responsible. One of the lessons was also devoted to this question. At it, in particular, the attention of the technical engineering personnel was attracted to the operational use of information in the interests of ensuring the high reliability of rotary-wing craft.

One day when inspecting a helicopter in a neighboring subunit, the flight technician noted a deviation in the functioning of the freewheeling clutch. If this had not been discovered in time, the precondition for a flight accident could have arisen. For preventive purposes, we decided to check the condition of the clutches on the helicopters of our squadron, too, that is to say, from a hot scent. The scrupulous, purposeful inspection permitted the prevention of defects of this type in our subunit.

One of the most important tasks in the activity of the IAS specialists is to be able to determine the probability of appearance of even insignificant malfunctions on an airplane or helicopter from the slightest signs. Practice is evidence that the specialists discover various deviations in the operation of aviation equipment in the course of special-purpose inspections and on park days. In this regard, as a rule, the best results are attained in work by those technicians of flights, group chiefs, and flight technicians who use each minute efficiently, have a creative approach to the matter, and persistently borrow the experience of the leaders in socialist competition.

In organizing a park day, special-purpose inspection, or preliminary preparation of the helicopters for flights we plan everything thoroughly and determine a specific assignment for each officer and warrant officer: which monitoring-checking equipment and technical means must be involved, how better to organize coordination between specialists, by what method to increase the effectiveness of monitoring. For example, it has become a rule with us to conduct a mandatory drill or training-methods lesson with the technicians of the flights on the eve of a regular park day. And the quality of labor was improved; this means that the operating reliability of the rotary-wing craft was also increased.

The role of graphic aids is constantly growing. If, in the past, we paid almost no attention to their drawing up, considering such an occupation to be virtually a useless waste of time, everything has changed now. Now, one can see various charts, diagrams, and tables in the process of preliminary preparation or on park day on the parking places. They indicate tasks specifically and give recommendations and advice to specialists concerning what should receive special attention when accomplishing preventive measures on the equipment.

It should be noted that the party and Komsomol organizations are constantly delving into all matters concerning the operating reliability of aviation equipment. They are waging a persistent struggle to ensure the vanguard role of the communists and Komsomol members in the competent maintenance of the helicopters and they hold strictly responsible those who do not have a sufficiently serious attitude toward the improvement of their professional skill and the expansion of their technical horizon.

Our party and Komsomol activists are devoting much attention to propagandizing the experience of the leaders in socialist competition and the best technicians and mechanics who are seeking effective methods for checking the preparation of the helicopters for flights.

The rationalizers are also making their contribution to this very important matter. Thus, Lieutenant of Technical Service A. Ivashchenko made a display to simulate the most probable malfunctions which may arise in electronic equipment. It is convenient for use and one can graphically see the reasons which cause various failures and what the specialists must undertake for preventive purposes.

Summer is in full swing. Intensive flight training is under way at our airfield, just as at others. Its quality depends to a great extent on the effectiveness of the labor of the IAS specialists. The better that preventive maintenance is organized, the higher is the guarantee of reliability of aviation equipment on the ground and in the air.

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## AVIATION TECHNICAL SERVICES CLASSROOM DESCRIBED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 77 signed to press  
31 May 77 p 31

[Article by Engr-Maj A. Orlov: "New Classroom"]

[Text] How can contemporary aviation equipment be mastered more effectively and rapidly? How can better use be made of the capabilities of the training-material base in the retraining process? These questions, just as many others connected with the improvement of technical knowledge and the acquisition of necessary skills, are constantly at the center of attention of commanders, their engineer-aviation deputies, and party and Komsomol organizations. As experience shows, very much in this important matter depends on the equipping of the classrooms and their saturation with interesting graphic aids: charts, posters, and working models and displays.

In putting the lecture room together, at one time we were carried away by tremendous panels and diagrams. For example, any technological chart had to take up almost half a wall. The displays on the fuel, hydraulic, and other systems also looked impressive. For some reason or other, both the scope and soundness in formulating the matter were seen here. Yes, it must be owned that such an arrangement, which was attractive by its external gaudiness, was also highly evaluated by several inspectors. But in essence, place several such aids in a classroom and look: there is not enough room for the other aids which are very necessary here.

Those for whom the training base was properly intended (pilots, navigators, engineers, technicians, and other fliers) felt these shortcomings themselves. Naturally, our specialists often pondered how to organize one classroom or another better, arrange models, charts, and tables more effectively, and how to see that on entering it one can obtain all necessary information. For what is important is not the size and the volume of the training aids, but first of all their content and convenience in application during lessons. And such a factor as an economy of means in reequipping the training base should also be noted. It is hardly worthwhile to convince anyone that more time and materials are required for big displays.

Of course, we cannot categorically reject big graphic aids. Here, everything depends on expediency and the conformance of form to content. The dimensions of the lecture hall also play an important role.

When making graphic aids, it should constantly be remembered that each of them must be not simply effective, but effective; it should not embellish the hall but should, first of all, carry clear information to be remembered and, with its content, should contribute to the deepening of the knowledge of the flight and technical engineering personnel. In this plane, the role of training aids is great today, especially in the assimilation of new aircraft.

We were convinced from our personal experience that in equipping various classrooms it is necessary to consider their dimensions and make efficient use of each meter of area. We are not forgetting these special features now in creating the new training base. In particular, recently, before beginning to re-equip a classroom on the aircraft and engine we thought everything through thoroughly, consulted with the commander, and, together with him, selected suitable premises and allocated a group of specialists. It included Engineer-Captain A. Mal'tsev, Captains of Technical Service N. Belous and A. Chernyy, Warrant Officers [praporshchik] A. Yezhov, Yu. Dugentsev, and V. Monik, and others. Then we determined what must be available in the new lecture hall and how better to arrange the diagrams, charts, and displays. We prepared a mock-up of the classroom on which we allocated the exact place for each training aid. Supports, shelves, and special tables were made ahead of time for the engine's assemblies and units. In this regard, we tried to arrange everything compactly but with consideration of a good view from any point in the laboratory. A diagram (drawing), assembly, and its cross-sectional view were placed on each stand.

This time, in contrast to past years, we replaced bulky displays by easily removable plotting boards. They are small in size and convenient in conducting lessons. They can be updated at any moment, in which regard, without special expenditures. The purpose of the assembly and its construction and operating principles are indicated on the plotting boards. All the basic units and systems of the aircraft engine and cockpit are found in the classroom. As a rule, we place small parts on special stands.

Serious attention was paid to the preparation of displays of conditioning, foot-control, hydraulic, and fuel systems as well as to the primary braking assemblies and others. In this regard, everything was made brightly, expressively, but without excessive overloading with information.

In order to increase the effectiveness of the lessons, this classroom was placed in a building which is located not far from the airfield. Prior to this, repairs were accomplished in the premises, tables and chairs were emplaced, and fluorescent lights with lamps of reflected light were hung. White shades on the windows decorated the classroom.

Now, when the training base has been improved, it is important to utilize its capabilities purposefully and effectively. For new aircraft also require a

new approach to the training process, the inculcation of a high professional style among the aviation specialists, and the expansion of their technical horizon. And, consequently, high demands are also imposed on methodological work with the officers who lead the lessons and on whom great responsibility is placed for instruction and indoctrination. The aviators' level of professional skill depends to a great extent on how they prepare for the lectures and what they will give the men that is new.

Not only are planned lessons conducted in our new technical classroom, but also assemblies, conferences, seminars on the procedure for organizing training, and other measures connected with the study of complex systems and assemblies of the contemporary missile-carrying aircraft. The leaders of the lessons also assemble here often, too.

Sometimes, assemblies with the engineers took place in this classroom. Lectures on the special features of servicing contemporary aviation equipment were given by the best methodologists, and experience in mastering the aircraft was shared by Major of Technical Service V. Zaytsev and Engineer-Captains V. Prokof'yev, V. Lysenko, and others. In conclusion, a practical and useful conversation took place on ways for the further improvement of the military aviators' ability and the introduction of everything new and advanced into the practice of the engineer aviation service. Many of those who attended these assemblies noted that the good equipping of the classroom helped them to have a better understanding of the subject being considered, to delve into the essence of the most difficult problems, and to borrow advanced experience in the assimilation of new aviation equipment.

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## BIRD PROBLEM AT AIRFIELDS: PREVENTIVE MEASURES DESCRIBED

Moscow AVIATSIYA I KOSMONAVTIKA in Russian No 7, Jul 77 signed to press  
31 May 77 pp 42-43

[Article by Engr-Col V. Pichugin and Engr-Ornithologist A. Nesen: "The Birds Change Course"]

[Text] Having accomplished a difficult en route flight successfully, the group of airplanes returned to its base. It encountered a dense flock of seagulls in the area of the airfield. And after landing, dents were discovered in the skin of three aircraft.

Since similar cases had also been noted here earlier, the commander of the air regiment assigned the mission to find a way to prevent them in the future. It was planned to conduct a complex of measures in the shortest time to improve the quality and effectiveness of the ornithological support of flights.

First of all, the commander required from the unit's supervisory personnel and the support subunits the profound study and strict implementations of the provisions of the basic documents for ornithological support of flights. In accordance with the instructions, he distributed duties between responsible officials clearly.

On order of the commander, an ad hoc ornithological commission was established and headed by the deputy regimental commander for flight training. Its composition included representatives from subunits of airfield maintenance support, communications, navigation, meteorological, medical, and chemical services, and the collective of military hunters. Now it organizes periodically (at least four times a year) a detailed examination of the airfield area and its adjacent territory. Places for the nesting and assembly of the birds and the areas for their feeding, spending the night, and rest are disclosed. The flight routes and altitudes of the feathered animals at various times of the year and day are determined.

The specialists who make up the commission regularly conduct lessons with the supervisory and flight personnel, flight operations groups, and command post

and landing systems sections at which the flora and fauna of the deployment area, aviation ornithology, and other questions are studied. The members of the commission maintain close ties with local soviet and administrative organs, the society for the protection of nature, the Museum of Regional Studies, and with the scientific coworkers of the Institute of Zoology of the republic's Academy of Sciences. This permits obtaining the necessary data for a more exact forecast of the ornithological situation and creating an ecological zone more rapidly alongside the airfield which is not very suitable for habitation by birds. Of course, all measures are conducted in such a way as not to damage the environment.

Let us say it was established that the reason for the concentration of birds close to the flying field is not only the physical-geographic features of the deployment area, but also the close proximity of city purifier structures to the airfield. The birds feed here. Returning to their nesting places, they usually cut across the aircraft landing course. The command requested the appropriate municipal organizations to improve the sanitation condition of the purifying systems.

In the headquarters, a special folder has been initiated with materials on ornithological support of flights which are studied systematically by supervisory and flight personnel. Documents such as extracts from directives and instructions of senior commanders, an instruction approved by the regimental commander, work plans of the commission and minutes of its meetings, maps and diagrams of the ornithological situation in the area of the airfield, and a procedure for conducting aerial and radar reconnaissance have been collected in the file. The commander and chief of staff use these materials to implement effective and operational monitoring of the state of affairs. There is a folder in the unit for the collection of recommendations and rationalizer suggestions which pertain to improving the quality of the ornithological support of the flights.

The specialists of the meteorological service headed by Senior Lieutenant of Technical Service Yu. Baranov conducted important work in this regard. They collected considerable scientific and statistical material the analysis and generalization of which as well as constant observations of local and migratory birds and studies of the territory adjacent to the airfield provided the opportunity to determine the birds' congregation areas by species, the start and end of their seasonal migrations, the time of the young's appearance and their taking wing, and the basic routes for seasonal and feeding flights. On the basis of such data detailed diagrams of the ornithological situation and a graph of the birds' daily activity have been constructed and are being used in the unit. All this permits giving the command and flight personnel scientifically substantiated, reliable recommendations on how to avoid collisions between aircraft and the birds.

Silhouettes of the birds which inhabit the deployment area are portrayed in displays in the ornithological corner and their distinguishing features and concentration areas as well as methods for preventing collisions between aircraft and the birds are indicated. Photographs of plan-position indicators having the characteristic blips of flocks of birds are used to train the command-post observers and radar operators.

The experience which has been accumulated in the unit has shown that collisions between birds and airplanes can be prevented only with a clearly organized system of observations and information about the ornithological situation at the airfield. In particular, this system envisages: the timely detection of the congregation of birds visually (by a weather scout in the air, by duty personnel--synoptician at the KDP [control tower] or SKP [flight command post], weather observer at the weather station, operator on the DPRM [long-range homing beacon] and BPRM [close-in homing beacon]) and with the use of radar (duty controller at the command post, shift aircraft landing controller at the RSP [radar-controlled landing system]); the immediate report about this to the flight controller; informing (command for) the pilot; necessary maneuver.

The repelling of birds in the area of the airfield, especially close to the runway, along the directions of takeoff and landing is among the measures which ensure high-quality ornithological support of flights and is extremely effective. A contest for the development and making of bird-repellant means was conducted among the personnel of the air garrison. As a result, rotating mechanical scarecrows, three-bladed horizontal windmills, and a carbide toy gun (in its manufacture material previously published in the journal AVIATSIYA I KOSMONAVTIKA was used) were created and are being successfully employed.

Thirty-six mechanical scarecrows on which bright bands have been applied with black and white oil paint and red fluorescent paint have been set up at the airfield. They are arranged every 200 meters from one another along both sides of the runway and within 15 meters from its edge. The repelling effect is intensified by the clanking of metal plates which are located in the lower part of the body and, when it rotates, strike rods which have been driven into the ground. In the interests of flight safety the support for the scarecrow is made of wood.

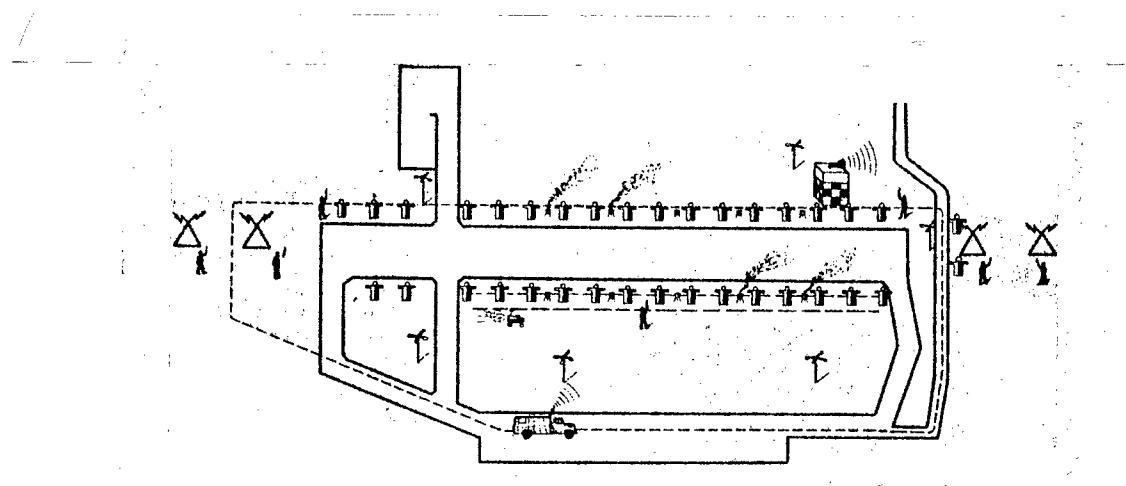
Eight windmills are placed at a considerable distance from the runway as if blocking the airfield from the most dangerous directions. Copper cases are fastened to the blades which are painted red, black, blue, and white. They are fastened on chain suspensions which, when rotating, strike a metal projection on a pole (its height is five meters). One windmill reliably repels birds within a radius of 100-150 meters.

In addition to the named means and a roving carbide gun smoke units are used. They are employed on days of active bird migrations when the ornithological situation at the airfield becomes complicated. Five or six smoke units are located on each side of the runway on special metal tables at a height of 60-70 cm, which excludes setting the grass on fire. The units are ignited only from the leeward side.

During flights bioacoustical devices are turned on: stationary--at the SKP, and mobile--on vehicles which patrol along the perimeter of the airfield. A patrol with flare pistols is assigned from the personnel of the takeoff detail. And on days of increased ornithological danger members of the garrison collective of military hunters with guns are involved to repel the birds (by agreement with the local soviet organs and society for the protection of nature).

In the interests of improving the quality of ornithological support of flights, a continuous struggle is being waged against rodents which are hunted by predatory birds. The grass is mowed regularly until the appearance of seeds. With the onset of winter cold, the frozen weeds are crushed with specially made track-borne drags.

The measures which have been listed and several others permitted eliminating collisions between airplanes and birds. Naturally, not everything from the practice of ornithological support of flights which was briefly related here is applicable in other air units. For very much depends on the physical-geographic conditions of the deployment area. But unquestionably, this experience deserves attention.



Arrangement of means for repelling birds at an airfield.

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